



Acquisition Directorate



HC-130J/H Long Range Surveillance Aircraft

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HC-130J Long Range Surveillance Aircraft

Mission execution begins here.

The USCG Acquisition Directorate is committed to delivering and supporting state-of-the-market platforms and systems that are affordable, efficient and mission-capable.

Long Range Surveillance Aircraft (LRS): Project Description

When the modernization and recapitalization project is complete, the Long Range Surveillance (LRS) fleet will include a total of 22 aircraft: six new, fully missionized HC-130Js, and 16 HC-130Hs with upgraded radar and avionics.

Missionization of HC-130Js

In response to declining readiness and availability rates in the Coast Guard's aging HC-130H fleet, Congress provided funding in fiscal year 2001 to acquire six HC-130J aircraft. The missionization of the six aircraft was assigned to the Deepwater Program to ensure integration and interoperability with all new and existing aviation assets, including its legacy fleet of HC-130H aircraft. In addition to its more-capable systems, the missionized HC-130J will provide improved mission capability with improved fuel efficiency, higher availability, and greater range and endurance.

Commonality with the Medium Range Surveillance Aircraft

Modifications to the HC-130J will result in approximately 90 percent commonality in C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance)

systems planned for the Coast Guard's HC-144A (Ocean Sentry) Maritime Patrol Aircraft. Sensors shared by both aircraft will include the electro-optical/forward-looking-infrared (FLIR) Systems Star Safire III, DF-430 UHF/VHF Direction Finder System, and SAAB Transponder Tech AB R4A Airborne Automatic Identification System (AIS). The HC-130J's radar systems will feature the proven multimode EDO EL/M 2022A(V)3 maritime surface search radar, mounted beneath the plane's fuselage, and a nose-mounted APN-241 weather radar.

The Coast Guard's HC-130J "Hercules" is based on the robust C-130 basic airframe design, but new engines, propellers, avionics, and cargo-handling equipment quickly set this new aircraft apart from its predecessor. The HC-130J will assume the traditional duties of the HC-130H, which include search and rescue, homeland security, pollution prevention, logistics, and personnel transport.

With its Allison AE2100 engines and Dowty six-bladed propellers, the C-130J boasts advanced performance over the H model by a 20 percent increase in speed, a 40 percent increase in range, and a 20 percent higher cruising altitude. It can climb higher and faster than the H model, yet takeoff and land on shorter runways.

A completely redesigned cockpit with an

integrated, digital flight management system allows the HC-130J to be operated by a two-person flight deck crew, as compared to the four- to five-person crew of the H model. Dual heads-up displays provide pilots with essential flight information and increase safety during low-level maneuvers, including takeoffs and landings in reduced visibility. A high-resolution, ground-mapping radar, integrated with on-board global positioning system (GPS) and inertial navigation system, provides aircrews with precise navigation and situational awareness. An enhanced cargo-handling system provides loadmasters with the ability to automatically calculate weight and balance data and, also, quickly change cargo compartment configuration to accommodate different payloads.

The HC-130J Missionization Project leverages the technology that was developed by Integrated Coast Guard Systems for the HC-144A Maritime Patrol Aircraft. The missionization suite includes a surface search radar, an electro-optical/forward-looking-infrared (FLIR) satellite and emergency response radios, all controlled through a flight deck-mounted operator station.

Status

The Coast Guard accepted the third "Missionized" HC-130J Long Range Surveillance (LRS) aircraft, on May 12, 2008, in Greenville, S.C., following successful completion of the formal acceptance procedures. The aircraft returned to the HC-130J Acquisition Program Office (APO) in Elizabeth City, N.C., on May 13, 2008, where it joined two other missionized aircraft and three un-missionized aircraft in preparation for attaining HC-130J fleet Initial Operating Capability (IOC) on July 1, 2008. Delivery of this aircraft is a critical step in providing the HC-130J the mission capabilities necessary to effectively assume the role of the new long-range search aircraft in Elizabeth City,



HC-130J with Mission Support Systems (C4ISR Suite)

Characteristics

Number Planned:	6 HC-130J 16 HC-130H
Cruise Speed:	339 kts (J) 325 kts (H)
Range:	5,500 nm (J) 4,100 nm (H)
Crew:	2 Officers, 5 Enlisted

N.C., replacing the oldest legacy 1500-series HC-130H aircraft.

Upgrading HC-130Hs

The Coast Guard is improving the material condition and capability of 16 legacy HC-130H aircraft. A prototype new radar (SELEX) is being installed at AR&SC in Elizabeth City, N.C. The new radar is more reliable and capable than the legacy system. The aircraft will also receive new DF-430 direction-finding radio equipment. The new direction finder will use the international standard 406MHz distress beacon technology. Later modernization projects will include upgrades to the aircraft's obsolete avionics and cockpit display suites as well as structural enhancements to extend the operational lives of the aircraft.

Status

The SELEX radar was installed on an HC-130H aircraft at AR&SC in Elizabeth City, N.C., and has operated for over 450 hours. The aircraft has completed Test and Evaluation (T&E) and Operational Test and Evaluation (OT&E). Aircraft are now in production installations.



HC-130H with prototype APS-137 radar replacement (SELEX) installed